

AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended): A Fibre Channel Arbitrated Loop interconnect system comprising:

a first port,

a second port,

the first and second ports including port logic to monitor certain arbitrated loop primitives,

a crossbar switch coupled to the first and second ports, and

a route determination apparatus including a centralized routing table consisting of ALPA addresses and their associated ports, the ~~route determination apparatus~~ centralized routing table directly coupled to each port and the crossbar switch through separate signaling paths, the centralized routing table initialized with a device discovery process during loop initialization,

~~whereby~~ wherein the crossbar switch creates paths between the ports based on arbitrated loop primitives.

Claim 2 (currently amended): The interconnect system of claim 1 ~~whereby~~ wherein the arbitrated loop primitives that cause the crossbar switch to create paths between ports includes one or more of the following: ARB, OPN and CLS.

Claim 3 (currently amended): A system for interconnecting Fibre Channel Arbitrated Loop devices comprising:

- a first Arbitrated Loop containing one or more Fibre Channel arbitrated loop devices,

- a second Arbitrated Loop,

- a Fibre Channel arbitrated loop interconnect system, the interconnect system including:

- a first port containing port logic coupled to the first Arbitrated Loop,

- a second port containing port logic coupled to the second Arbitrated Loop,

- route determination apparatus including a centralized routing table directly coupled to the first and second ports for selecting a route between ports,

- ~~the route determination apparatus~~centralized routing table selecting routes based on received Fibre Channel Arbitrated Loop primitives from the ports and ~~including a routing table~~ containing ALPA addresses and their associated ports,

- the centralized routing table initialized with a device discovery process during loop initialization, and

- connectivity apparatus directly coupled to the first and second ports and to the route determination apparatus for switching frames between ports under control of the route determination apparatus,

- wherein the connectivity apparatus is a crossbar switch, and

- wherein Fibre Channel frames are transferred between a device on the first Arbitrated Loop and the second Arbitrated Loop Device.

Claim 4 (original): The interconnect system of claim 3 whereby the arbitrated loop primitives that cause the crossbar switch to create paths between ports includes one or more of the following: ARB, OPN and CLS.

Claim 5 (original): The interconnect system of claim 3 including a R_RDY counter to count R_RDY's before the OPN response is received by the originating Fibre Channel Arbitrated Loop Device that is connected to the interconnect system.

Claim 6 (currently amended): A system for interconnecting Fibre Channel Arbitrated Loop devices comprising:

a first Fibre Channel Arbitrated loop switch,

a second Fibre Channel Arbitrated loop switch,

the first and second Fibre Channel Arbitrated Loop Switches including port logic, connectivity apparatus and route determination logic, the route determination logic including a centralized routing table directly coupled to the port logic and the connectivity apparatus,

the route determination logic creating routes based on the receipt of certain arbitrated Loop primitives, and

[[a]]the centralized routing table initialized with a device discovery process during loop initialization,

wherein the first and second loop switches are interconnected by two or more Fibre Channel Arbitrated Loop links and transfer frames on both ports.

Claim 7 (currently amended): A system for interconnecting Fibre Channel Arbitrated Loop Devices comprising:

a plurality of Fibre Channel Arbitrated Loop ports each including port logic,

a route determination apparatus comprising a centralized routing table,

the centralized routing table initialized with a device discovery process during loop initialization, and

a crossbar switch adapted to connect the Fibre Channel Arbitrated Loop ports based on the receipt of certain Fibre Channel Arbitrated Loop primitives,

wherein a LIP received on the first port is selectively propagated to one or more of the ports, and

wherein the ~~route determination apparatus~~centralized routing table is directly coupled to the plurality of ports and the crossbar switch.

Claim 8 (currently amended): A system for interconnecting Fibre Channel Arbitrated Loop Devices comprising;

a plurality of Fibre Channel Arbitrated Loop ports each including port logic,
a route determination apparatus comprising a centralized routing table,
the centralized routing table initialized with a device discovery process during loop initialization,
a connectivity apparatus, and
logic implementing predefined loop control criteria to enforce fairness,
wherein the ~~route determination apparatus~~centralized routing table is directly coupled to the plurality of ports and the connectivity apparatus.

Claim 9 (original): A system for interconnecting Fibre Channel Arbitrated Loop Devices of claim 8, wherein the fairness logic serves to limit the number of times a connected device opens another device.

Claim 10 (original): A system for interconnecting Fibre Channel Arbitrated Loop Devices of claim 9, wherein the fairness logic serves to limit the number of times a connected device sequentially opens another device.

Claim 11 (original): A system for interconnecting Fibre Channel Arbitrated Loop Devices of claim 8, further including a counter to count the number of opens.

Claim 12 (original): A system for interconnecting Fibre Channel Arbitrated Loop Devices of claim 11, wherein the counter counts sequential opens.

Claim 13 (original): A system for interconnecting Fibre Channel Arbitrated Loop Devices of claim 8, wherein the logic proactively closes a device.

Claim 14 (original): A system for interconnecting Fibre Channel Arbitrated Loop Devices of claim 8, wherein the ports are assigned different access priorities.